



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/539,026	03/30/2000	Michael R. Van Buskirk	204306	7676
45979	7590	06/02/2005	EXAMINER	
PERKINS COLE LLP/MSFT P. O. BOX 1247 SEATTLE, WA 98111-1247			EL CHANTI, HUSSEIN A	
			ART UNIT	PAPER NUMBER
			2157	

DATE MAILED: 06/02/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/539,026

Applicant(s)

VAN BUSKIRK ET AL.

Examiner

Hussein A. El-chanti

Art Unit

2157

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 04 March 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-41 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-41 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

PD

DETAILED ACTION

1. This action is responsive to restriction election received on March 4, 2005. Applicant's election without traverse of 1-41 in the reply filed on March 4, 2005 is acknowledged.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claim 1 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1 recites the limitation "its" in 10th line of the claim. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 1-8 and 10-41 are rejected under 35 U.S.C. 102(e) as being anticipated by McDougall et al., U.S. Patent No. 5,999,966 (referred to hereafter as McDougall).

McDougall teaches the invention explicitly as claimed including a system and method for mixing audio and video signals in a multimedia conference (see abstract).

As to claim 1, McDougall teaches a computer readable-medium having computer-executable instructions for communicating between an application and a multipoint processing mode having at least one audio processor module for processing audio data in a multipoint conference and at least one video processor module for processing video data in a multipoint conference, the computer-executable instructions (see col. 2 lines 46-62, a video and audio signals are mixed and routed in a multipoint conference) performing the step of:

exposing at least one interface by the multipoint processing module to receive a request from the application to command the multipoint processing module to modify its default operation to alter at least one attribute of at least one of the audio processor module and video processor module (see col. 10 lines 48-col. 11 lines 11, audio and video signals are routed from the speaker to the participants).

As to claim 2, McDougall teaches the computer-readable medium of claim 1 wherein said at least one interface comprises an audio interface, the application using said audio interface to request the multipoint processing module to change a routing of at least one audio input stream towards at least one audio output stream (see col. 10 lines 48-col. 11 lines 23).

As to claim 3, McDougall teaches the computer-readable medium of claim 2 wherein the request is selected from the group consisting of:

a command to retrieve an audio crossbar topology, the audio crossbar topology indicating how a set of audio input streams is being routed to a set of audio output streams;

a command to change the audio crossbar topology to indicate to the multipoint processing module how the set of audio input streams should be routed to a set of audio output streams;

a command to retrieve a value of an audio crossbar control parameter;

a command to set a value of an audio crossbar control parameter;

a command to retrieve a minimum value, a maximum value, and a default value for an audio crossbar control parameter;

a command to retrieve a mixing capability and a transcoding capability of the audio crossbar; and

a command to retrieve an audio level of a list of audio input streams (see col. 15 lines 39-col. 16 lines 50).

As to claim 4, McDougall teaches the computer-readable medium of claim 1 wherein said at least one interface comprises a video interface, the application using said video interface to request the multipoint processing module to change a routing of at least one video input stream towards at least one video output stream (see col. 10 lines 50-col. 11 lines 11).

As to claim 5, McDougall teaches the computer-readable medium of claim 4 wherein the request is selected from the group consisting of:

a command to retrieve a video crossbar topology, the video crossbar topology indicating how a set of video input streams is being routed to a set of video output streams based on a content of associated audio input streams;

a command to change the video crossbar topology to indicate to the multipoint processing module how the set of video input streams should be routed to a set of video input streams based on a content of associated audio input streams;

a command to retrieve a value of an audio crossbar control parameter;

a command to retrieve a value of an video crossbar control parameter;

a command to set a value of an video crossbar control parameter;

a command to retrieve a minimum value, a maximum value, and a default value for an video crossbar control parameter;

a command to retrieve a mixing capability and a transcoding capability of the video crossbar; and

a command to retrieve an audio level of a list of video input streams (see col. 15 lines 39-col. 16 lines 50).

As to claim 6, McDougall teaches the computer-readable medium of claim 2 wherein said at least one interface comprises a video interface, the application using said video interface to request the multipoint processing module to change a routing of at least one video input stream towards at least one video output stream (see fig. 8).

As to claim 7, McDougall teaches the computer-readable medium of claim 6 wherein the request is selected from the group consisting of:

a command to retrieve an audio crossbar topology, the audio crossbar topology indicating how a set of audio input streams is being routed to a set of audio output streams;

a command to change the audio crossbar topology to indicate to the multipoint processing module how the set of audio input streams should be routed to a set of audio output streams;

a command to retrieve a value of an audio crossbar control parameter;

a command to set a value of an audio crossbar control parameter;

a command to retrieve a minimum value, a maximum value, and a default value for an audio crossbar control parameter;

a command to retrieve a mixing capability and a transcoding capability of the audio crossbar; and

a command to retrieve an audio level of a list of audio input streams.

the request to route at least one video input stream is selected from the group consisting of:

a command to retrieve a video crossbar topology, the video crossbar topology indicating how a set of video input streams is being routed to a set of video output streams based on a content of associated audio input streams;

a command to change the video crossbar topology to indicate to the multipoint processing module how the set of video input streams should be routed to a set of video input streams based on a content of associated audio input streams;

a command to retrieve a value of an audio crossbar control parameter;

- a command to retrieve a value of an video crossbar control parameter;
- a command to set a value of an video crossbar control parameter;
- a command to retrieve a minimum value, a maximum value, and a default value for an video crossbar control parameter;
- a command to retrieve a mixing capability and a transcoding capability of the video crossbar; and
- a command to retrieve an audio level of a list of video input streams (see col. 15-col. 16).

As to claim 8, McDougall teaches the computer-readable medium of claim 7 wherein said at least one interface further comprises a format control interface, the application using said format control interface to retrieve and set an audio format and a video format, the format control interface comprising:

- a command to retrieve a preferred audio and video format for a conference;
- a command to set the preferred audio and video format for a conference;
- a command to retrieve a format structure and configuration capability structure pair of a conference, the format structure and configuration capability structure pair describing an audio and video format supported by the conference;
- a command to retrieve a number of audio and video format structure and configuration capability structure pairs that are available in a conference;
- a command to reorder a list of preferred audio formats; and

a command to reorder a list of preferred video formats (see col. 22-col. 26).

As to claim 10, McDougall teaches the computer-readable medium of claim 3 wherein the multipoint processing module disables the command to set a value of an audio crossbar control parameter when a flag is set (see fig. 16-17).

As to claim 11, McDougall teaches the computer-readable medium of claim 5 to evaluate a speaker (see col. 20-23).

As to claim 12, McDougall teaches the computer-readable medium of claim 5 wherein the multipoint processing module disables the command to set a value of a video crossbar control parameter when a control flag is set (see col. 18 lines 6-30).

As to claim 13, McDougall teaches a method to communicate between a media service provider and a multipoint processing module controlling an encoder module and a decoder module for processing video data in a multipoint conference (see col. 2 lines 46-62), the method comprising the step of:

exposing at least one interface by one of the media service provider component and the multipoint processing module to communicate commands and indications between the media service provider component and the multipoint processing module (see col. 10-col. 11).

As to claim 14, McDougall teaches the method of claim 13 wherein said at least one interface further comprises a pin interface, the multipoint processing module using said pin interface to retrieve a direction and crossbar positional index of one of the audio streams and video streams (see col. 10-col. 11 and fig. 6-8).

As to claim 15, McDougall teaches the method of claim 13 wherein said at least one interface further comprises a decoder interface to handle decoder commands, the decoder interface comprising:

a command to complete updating a video frame and display the video frame until commanded to release the video frame; and

an indication of a video temporal and spatial trade-off of the encoder (see col. 10-col. 11).

As to claim 16, McDougall teaches the computer-readable medium of claim 13 comprising update mode (see fig. 20-24).

As to claim 17, McDougall teaches the computer-readable medium of claim 13 comprising error detection (see fig. 20-24).

As to claim 18, McDougall teaches the method of claim 13 wherein the multipoint processing module has a video pin, said at least one interface further comprises a bandwidth interface comprising:

a command to specify an upper limit in bandwidth transmission of the video pin;

a command to retrieve the video pin's upper limit in bandwidth transmission;

a command to retrieve values of the upper limit in bandwidth transmission with which the video pin may be setup, the values including a minimum value, a maximum value, a default value, and a support value (see col. 20).

Art Unit: 2157

As to claim 19, McDougall teaches the method of claim 13 wherein the multipoint processing module has a video pin, said at least one interface further comprises a frame rate control interface comprising:

- a command to specify a video frame's average display time to the video pin;

- a command to retrieve the video frame's average display time;

- a command to retrieve values for the video frame's average display time with which the video pin may be setup, the values including a minimum value, a maximum value, a default value, and a support value (see fig. 40-44).

As to claim 20, McDougall teaches the computer-readable medium of claim 13 comprising RTP packet size (see fig. 10-16).

As to claim 21, McDougall teaches a multipoint processing accelerator apparatus for transmitting audio and video data over a plurality of channels in a multipoint conference being controlled by an application, the apparatus comprising:

- at least one hardware module having a default operation for applying signal processing operations to at least one of the audio and video data (see col. 2);
- and

- a minidriver, said minidriver communicating with the application through at least one property set to do one of receiving a command to modify the default operation of the at least one hardware module and sending a command to the application (see col. 10-col. 11).

As to claim 22, McDougall teaches the apparatus of claim 21 wherein at least one property set comprises an audio topology property set (see col. 10-col. 11).

As to claim 23, McDougall teaches the computer-readable medium of claim 22 comprising periodicity of interrupt service routine (see fig. 20-24).

As to claim 24, McDougall teaches the apparatus of claim 21 wherein at least one property set comprises a video topology property set (see col. 10-col. 11).

As to claim 25, McDougall teaches the apparatus of claim 24 wherein the video topology property set comprises:

- a property to do one of updating a video crossbar content and retrieving an video crossbar content;

- a property to retrieve mixing and transcoding capabilities of a video crossbar;

- a property to do one of setting a periodicity of an interrupt service routine and getting a periodicity of an interrupt service routine;

- a property to do one of setting a time to evaluate whether a speaker is continuing to speak and getting a time to evaluate whether a speaker is continuing to speak;

- a setting to specify a second time during which a speaker and a video switching process can not be taken over by a second speaker; and

- a setting to specify a third time, the third time being the time when a switch is made and when a fast update request is sent to the speaker's system (see fig. 6-8).

As to claim 26, McDougall teaches the apparatus of claim 21 wherein the at least one property set comprises a decoder property set (see fig. 6-8).

As to claim 27, McDougall teaches the apparatus of claim 26 wherein the decoder property comprises:

- a property to specify that a video frame update be completed and a video frame be displayed until receiving a release signal (see fig. 40-46); and

- a property to indicate a video temporal and spatial trade-off of an encoder (see fig. 40-46).

As to claim 28, McDougall teaches the apparatus of claim 21 wherein the at least one property set comprises a video encoder send property set (see col. 6-col. 7).

As to claim 29, McDougall teaches the apparatus of claim 28 wherein the at least one hardware module comprises a video encoder, the video encoder send property set comprises:

- a property to signal to the application that it needs to send a command to the video encoder (see col. 10-11).

As to claim 30, McDougall teaches the apparatus of claim 21 wherein the at least one property set comprises a stream topology property set (see col. 10-11).

As to claim 31, McDougall teaches the apparatus of claim 30 wherein the stream topology property set comprises:

- a property to retrieve a direction and crossbar positional index of a stream (see col. 10-11).

As to claim 32, McDougall teaches the apparatus of claim 21 wherein the at least one property set comprises a video encoder property set (see col. 6-7).

As to claim 33, McDougall teaches the computer-readable medium of claim 32 comprising fast update mode (see fig. 20-24).

As to claim 34, McDougall teaches the computer-readable medium of claim 21 comprises network statistics (see fig. 20-24).

As to claim 35, McDougall teaches the computer-readable medium of claim 34 comprising error detection (see fig. 45A-B).

As to claim 36, McDougall teaches the apparatus of claim 21 wherein the at least one property set comprises a bandwidth property set (see fig. 40-44).

As to claim 37, McDougall teaches the apparatus of claim 36 wherein the bandwidth property set comprises:

- a property to do one of specifying an upper limit in bandwidth transmission to a video output pin and supplying the upper limit bandwidth transmission of the video output pin to a media service provider (see col. 10 lines 12-30).

As to claim 38, McDougall teaches the apparatus of claim 21 wherein the at least one property set comprises a frame rate property set (see fig. 40-46).

As to claim 39, McDougall teaches the apparatus of claim 38 wherein the frame rate property set comprises:

- a property to do one of specifying a video frame's average display time to a video output pin and supplying the video frame average display time to a media service provider component (see fig. 40-46).

As to claim 40, McDougall teaches the computer-readable medium of claim 21 comprising RTP packet (see col. 15-col. 17).

As to claim 41, McDougall teaches the computer-readable medium of claim 40 comprises RTP packet size (see col. 15-17).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over McDougall in view of Roy, U.S. Patent No. 6,600,725.

As to claim 9, McDougall teaches the computer-readable medium of claim 3 wherein the audio crossbar control parameter is selected from a group of audio crossbar control parameters.

McDougall doesn't explicitly teach the limitation "a setting to enable and disable silence detection ". However, Roy teaches a multimedia conferencing apparatus that have a setting to enable and disable silence detection (see col. 7 lines 21-37).

It would have been obvious for one of the ordinary skill in the art at the time of the invention to modify McDougall in view of a setting to enable and disable silence detection as in Roy. One would be motivated to include a setting to enable and disable silence detection in McDougall because doing so would allow the user to determine

Art Unit: 2157

whether a speaker continues to speak in case of a malfunction of the user's sound card or speaker.

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hussein A. El-chanti whose telephone number is (571)272-3999. The examiner can normally be reached on Mon-Fri 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ario Etienne can be reached on (571)272-4001. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Hussein El-chanti

May 25, 2005


ARIO ETIENNE
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100